**Los Angeles County
Chief Executive Office**

Class Specification: PRINCIPAL GEOGRAPHIC INFORMATION SYSTEMS ANALYST

ITEM NUMBER: 4415

APPROVAL DATE: 07/31/2012

DEFINITION:
Performs highly complex professional duties in support of County and departmental GIS databases and geographic information systems capabilities; participates and may serve as project lead in design, testing, implementation and maintenance of large-scale GIS applications, tools and associated databases; participates in the evaluation of GIS technologies and solutions and the development of GIS policies, standards and procedures.

CLASSIFICATION STANDARDS:
Positions allocable to this principal level professional class independently perform complex duties focused on large-scale GIS application and database projects and highly complex analytical assignments to meet departmental/County-wide business, information and decision-support requirements. Incumbents participate in the evaluation of GIS technologies, tools and solutions and the development of policies, standards and procedures. Incumbents may perform systems and database administration for GIS services. Projects involve the use of a wide range of development tools and software and extensive analysis and adaptation to meet customer requirements. Assignments typically involve varied and complex features and novel or ambiguous issues or questions which require extensive modification and adaptation of standard procedures, methods and techniques to address issues or problems. Incumbents may guide/oversee/mentor or supervise the work of a very small team of other professionals. Completed work is reviewed primarily for general acceptability, feasibility and relevance in meeting County or departmental needs.

Positions in this class differ from those in the higher level class of GIS Specialist in that GIS Specialists are primarily focused on providing technical team leadership in the development of large-scale GIS applications and databases. Work of incumbents in this class requires the use of significant judgment and ingenuity in developing plans and originating approaches to meet project objectives and is reviewed for overall feasibility and cost effectiveness in achieving expected results.

Positions in this class differ from those in the lower level class of Senior GIS Analyst in that incumbents in the class of Senior GIS Analyst perform duties of considerable difficulty focused primarily on data analysis, database maintenance or web application

development. Finished products are reviewed for adequacy of results and soundness of the procedures and methods used.

EXAMPLES OF DUTIES:
ESSENTIAL DUTIES:

Meets with customers to define business and functional requirements to ensure applications and work products meet customer needs; works with departmental customers and central agency staff in the planning, design, development, configuration, testing, implementation and maintenance of large-scale GIS applications and web portals and associated backend processing modules.

Creates customized tools and menus for new and existing applications; develops logic and writes programs, using applicable development tools and programming languages.

Designs and develops complex cartographic representations of GIS data to complete complex mapping tasks in support of customer needs.

Develops map services and performs site configurations for departmental users.

Designs and develops complex cartographic representations of GIS data to complete complex mapping tasks in support of customer needs; designs and develops cartographic standards for use by lower level staff.

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Participates in the design, development and integration of GIS database architectures, naming conventions and standards; identifies data requirements and multi-agency data sources; develops data models and logical database designs for geospatial and other data.

Writes complex queries and scripts to automate repetitive but complex tasks; identifies database discrepancies and automates routines to make corrections to improve database quality.

Creates, edits, imports and manages spatial data to create and maintain enterprise GIS data repositories.

Creates complex, customized tools and menus for new and existing applications; designs, develops, configures, tests, and implements logic and writes programs for complex applications and programs, using applicable development tools and programming languages.

Coordinates the exchange of large scale data sets with other agencies and the integration and migration of data from multiple internal and external sources; analyzes data security issues and establishes applicable security systems, protocols and privileges.

Converts complex addresses into GIS formats making advanced uses of geocoding routines; designs, develops and implements complex geocoding and fuzzy matching

data scripts, algorithms and procedures to achieve a high degree of data accuracy.

Analyzes complex and highly detailed underlying data and systems processes to develop solutions for the integration and interoperability of GIS applications designed for a variety of purposes.

Performs highly complex analytical projects, including spatial and other analyses; writes reports and prepares complex maps and other GIS products.

Performs database and systems administration functions; establishes security protocols and privileges; monitors and tunes database performance; establishes and maintains database backup and recovery processes; monitors server performance and utilization; installs or oversees the installation of software patches and updates; performs software license management functions.

Participates in research and evaluation of new and emerging GIS and data management technologies to evaluate their potential and compatibility with County GIS needs and technology environment; analyzes and evaluates technology solutions to ensure their consistency and integration with County technology standards; participates in developing enterprise GIS policies, standards and procedures.

Participates in preparing and evaluating requests for proposals, bids, contracts and service agreements for GIS software, equipment and consulting services; may administer and oversee work performed by contractors to ensure County requirements are met within contract terms.

Develops training materials and conducts training for GIS professionals and users; serves as an expert resource for other professionals.

May serve as a project leader for complex GIS development and maintenance projects; monitors and reports on progress; meets with internal and external customers to review project status and resolve development/implementation issues.

Reviews cartographic products and geographic analyses by lower level staff to ensure accuracy and completeness.

MINIMUM REQUIREMENTS:

TRAINING AND EXPERIENCE:

Option 1

Two years of experience at the level of Los Angeles County Senior Geographic Information Analyst performing GIS data analysis, database maintenance and/or GIS application development projects and assignments.

Option 2

A Bachelor's degree from an accredited college or university with a major in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems - AND - at least five years of experience in the uses and operations of geographic information systems, including at least two years of experience performing GIS data analysis, database management and/or GIS web application development projects and assignments. An advanced degree in geographic information systems, GIScience, geography or a closely related field that required equivalent coursework in geographic information systems may be substituted for two years of the required experience.

LICENSE:
A valid California Class C Driver License or the ability to utilize an alternative method of transportation when needed to carry out job-related essential functions.

PHYSICAL CLASS:
2 - Light.

Positions within this class require light physical effort that may include occasional light lifting to a 10 pound limit and some bending, stooping, or squatting. Considerable walking may be involved.